User manual

CE

Manufacturing yyyy:_____ Art no: 850004 Rev: 7

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Manufacturer

Proton Caretec AB
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SE-568 23 Skillingaryd

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	Customer service	0370-69 26 75
	Spareparts/support	0370-69 26 73
TeleFax		0370-69 26 70
E-post	caretec@proton.se	
www	www.proton.se	

Certifierad according to ISO9001:2000 and 14001:1996

Intended Use

- Homecare and nursing homes (Application environments 3 and 4)
- Adults and children over 12 years

General warnings

Warning: Read the manual before use!

Warning: The manual should be available to end user throughout the lifetime of the bed!

Warning: When transporting the bed top, make sure that no engines or other components may be damaged.

Warning: Only accessories approved by Proton Caretec may be used together with the bed

Warning: Modification of the product is not allowed

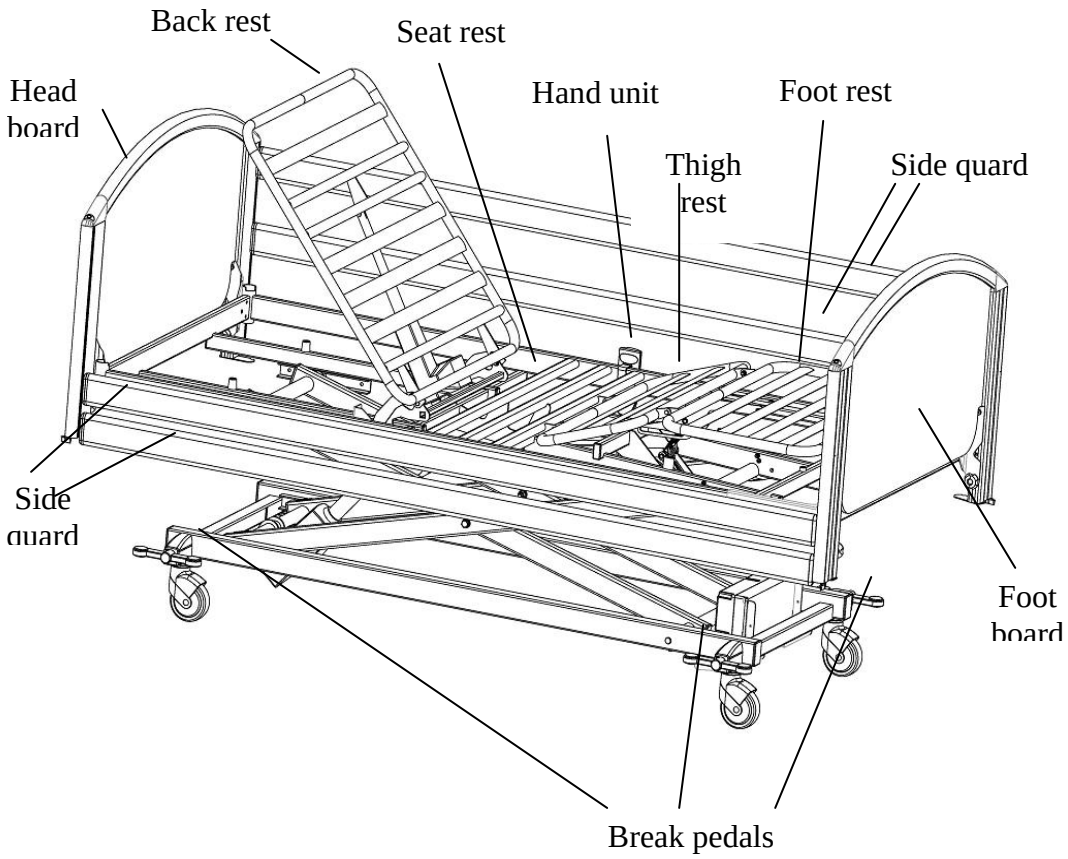
Warning: The electrical system is tested and approved according to current standards, however, interference between the bed and other products can occur. Increase the distance between the bed and other products to reduce the electromagnetic interference

Warning: The bed should be placed in the lowest position when the patient is unattended, this to reduce the risk of falling accidents
Warning: Case of dangers may occur if power supply cord is handled carelessly, or subjected to mechanical stress such as cutting or pressure.

Warning: If the cables from other equipment must be in bed, precautions must be made to avoid that the wires could be clamped in bed.

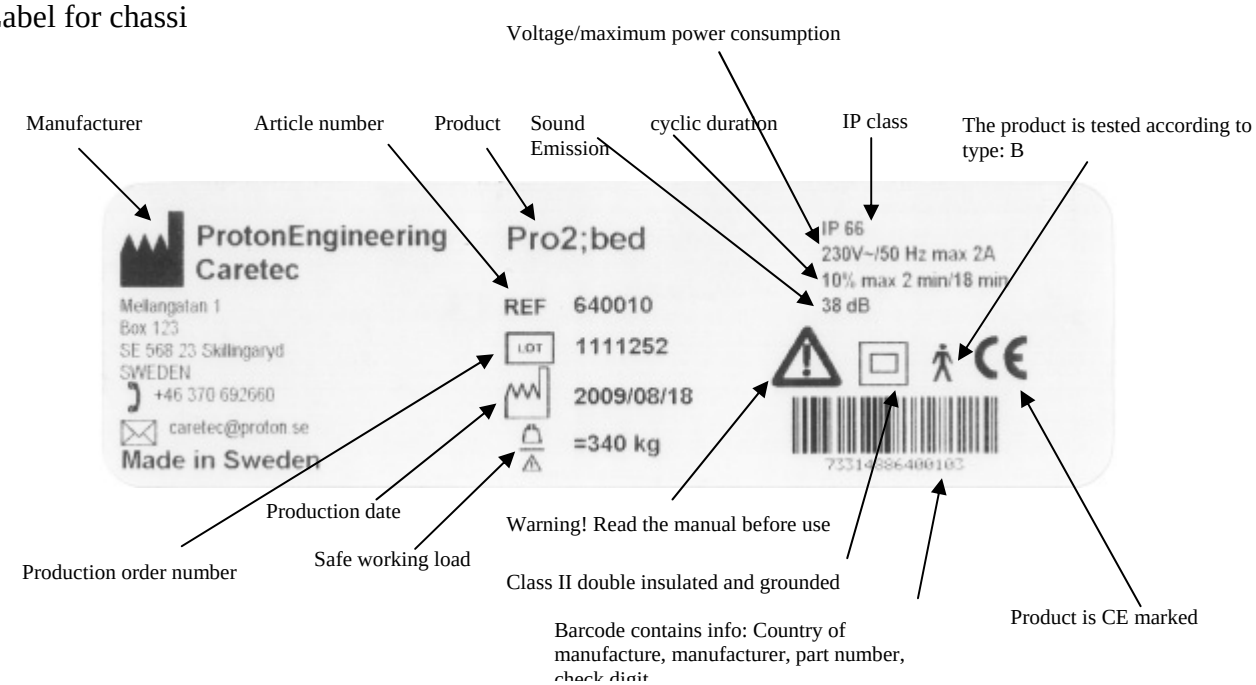
Warning: When the bed and the side rails are in their lowest positions, there may be risk of squeeze between the side rails and the floor.

Product Description

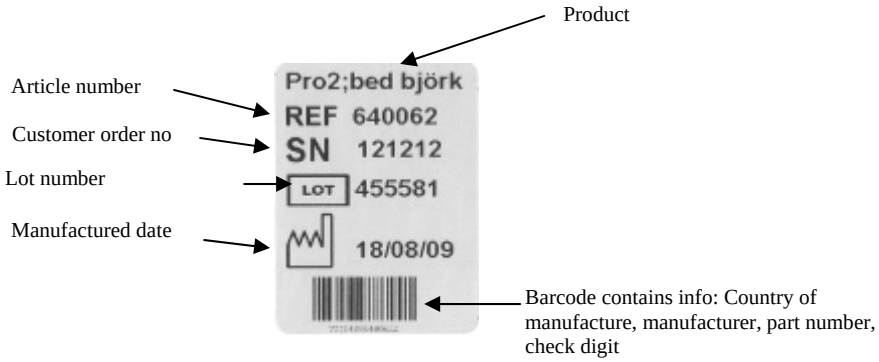


Explanation label

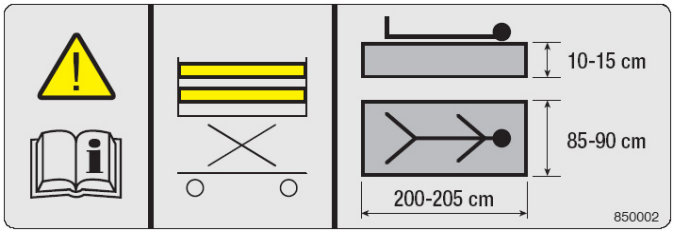
Label for chassi



Label for complete bed with boards and side quards

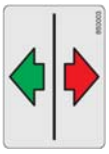


Other labels



Note that the original side quards are mounted on the bed and that they are fitted properly. See manual for specific part numbers.
Only mattresses with the specified dimensions may be used.

Incompatible mattresses can create hazards.



Instructions to simplify assembly of raising support. Raising support can not (and should not) be mounted on the side of the line as the red arrow marks.

Specifies how much the top and bottom weighs as they can be separated from each other. One label on each part.

Warning! See instructions in the manual

Accesories

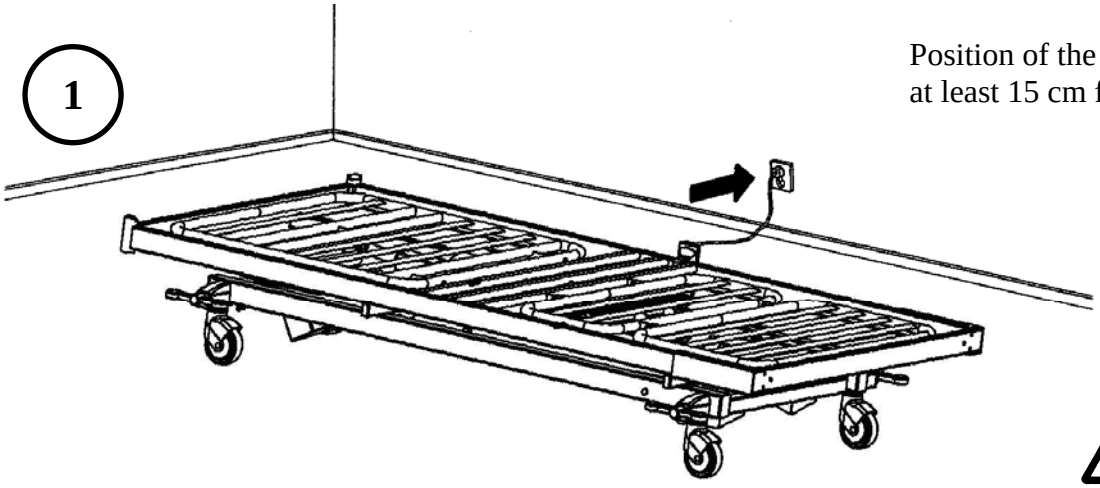
pro2;bed

Accesories	Articlenumber
Head and foot board grey	710173
Head and foot board beech	710174
Head and foot board 105 cm	710191
Telescopic side quards gray 4-package	710164
Telescopic side quards beech 4-package	710163
Head and foot board (for 710378)	710377
Telescopic side quards with 3 ribs	710378
Raising aid Tage right	719990
Raising aid Tage left	719992
Raising aid Platt	719994
Raising aid Greppo	719986
Side quard protection	10907
Elevation to side quard 12,5cm	51270
Side quard protection to elevated guard	10908
Lifting pole	710176

Installation

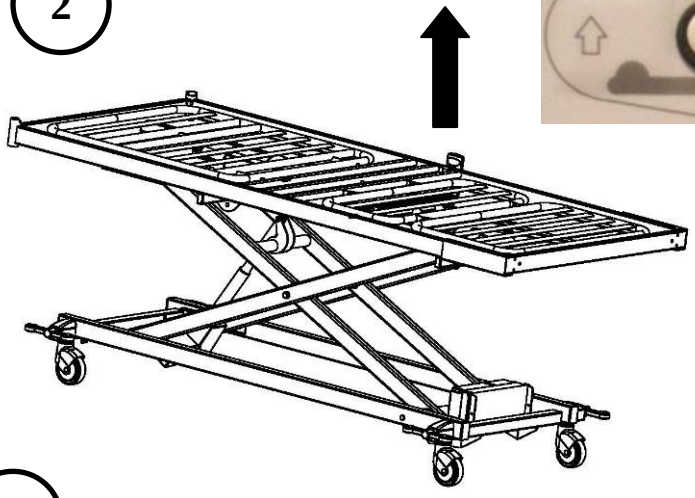
Position of the bed should be at least 15 cm from the wall.

1



The power cord must run freely

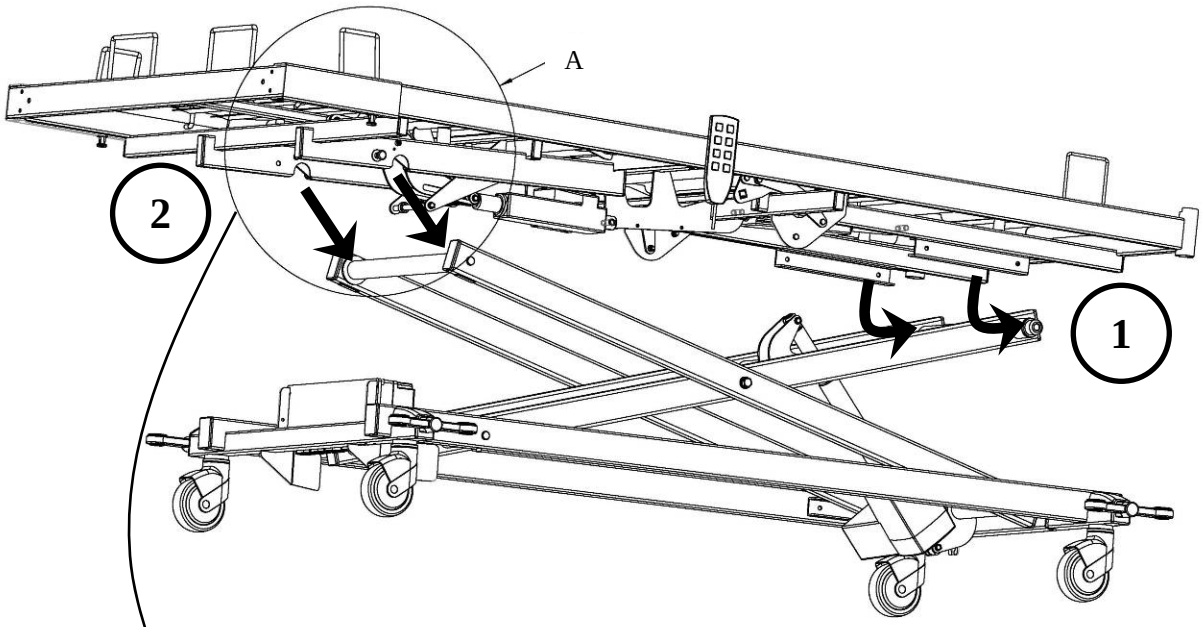
2



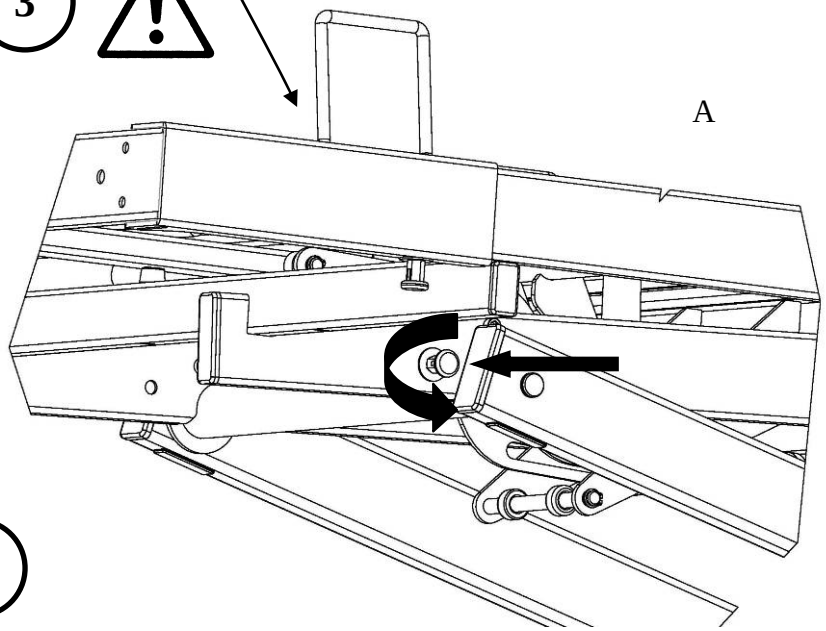
3

Make a functional check!

Mount Pro2; bed



3



4

Connect actuator cables

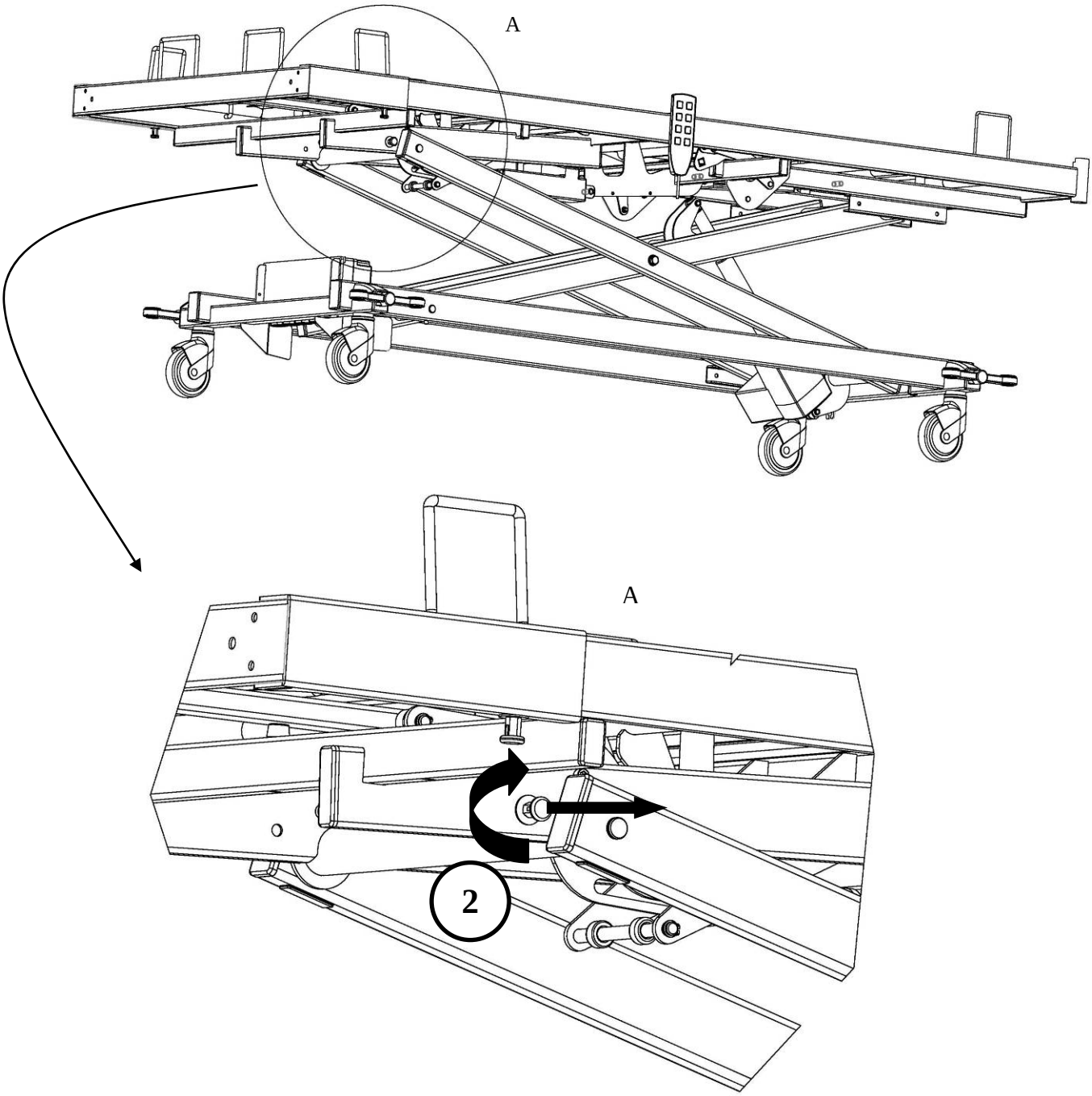
5

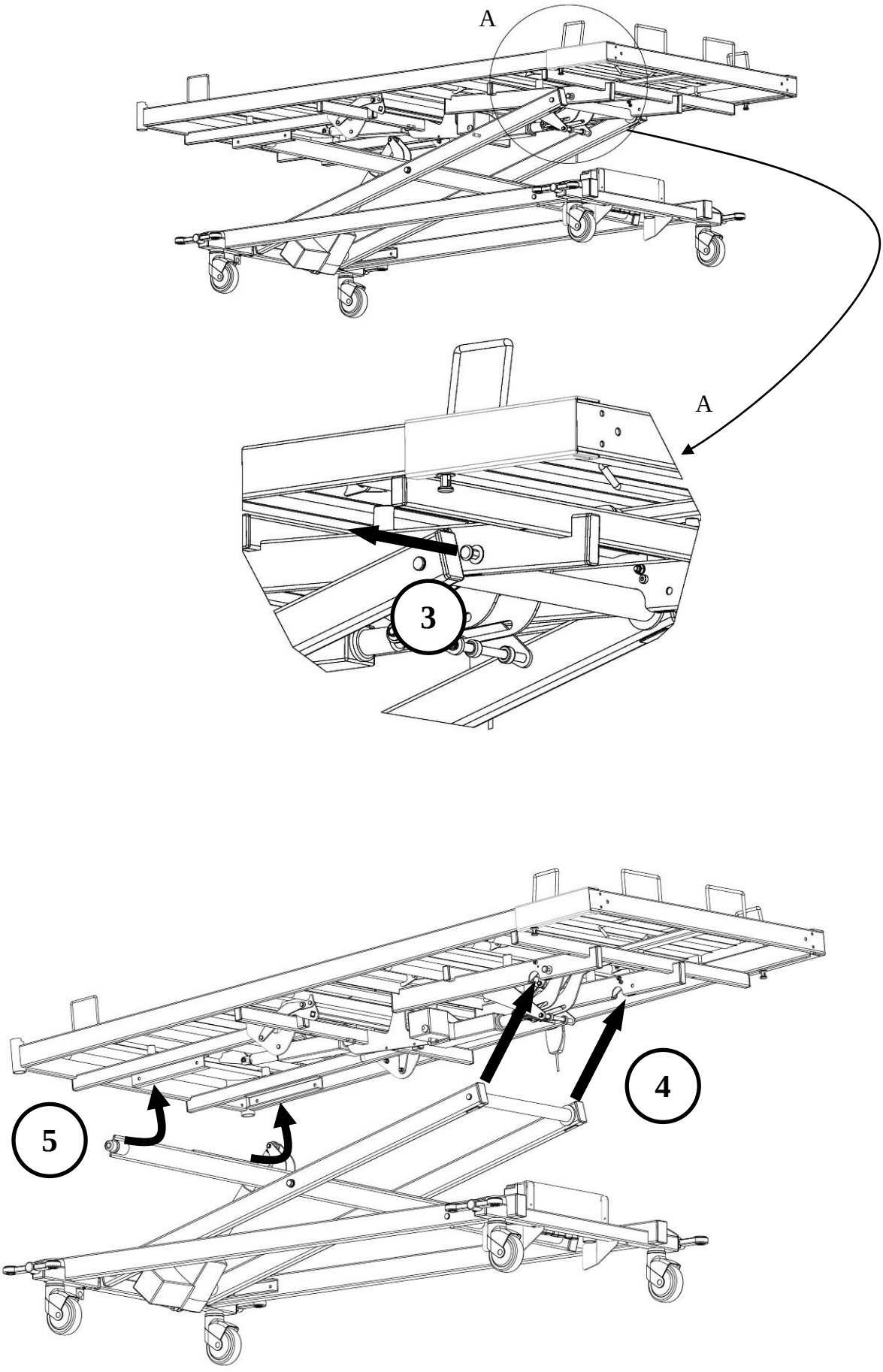
Make a functional check!

Dismount pro^2;bed

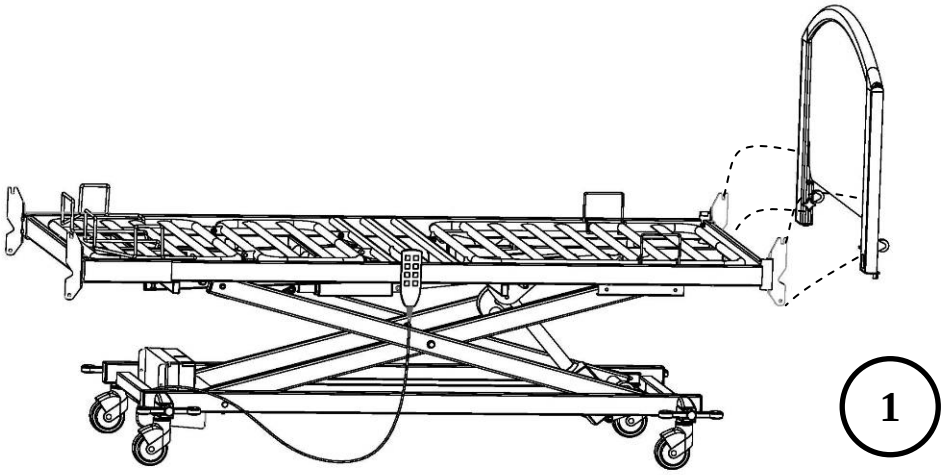
1

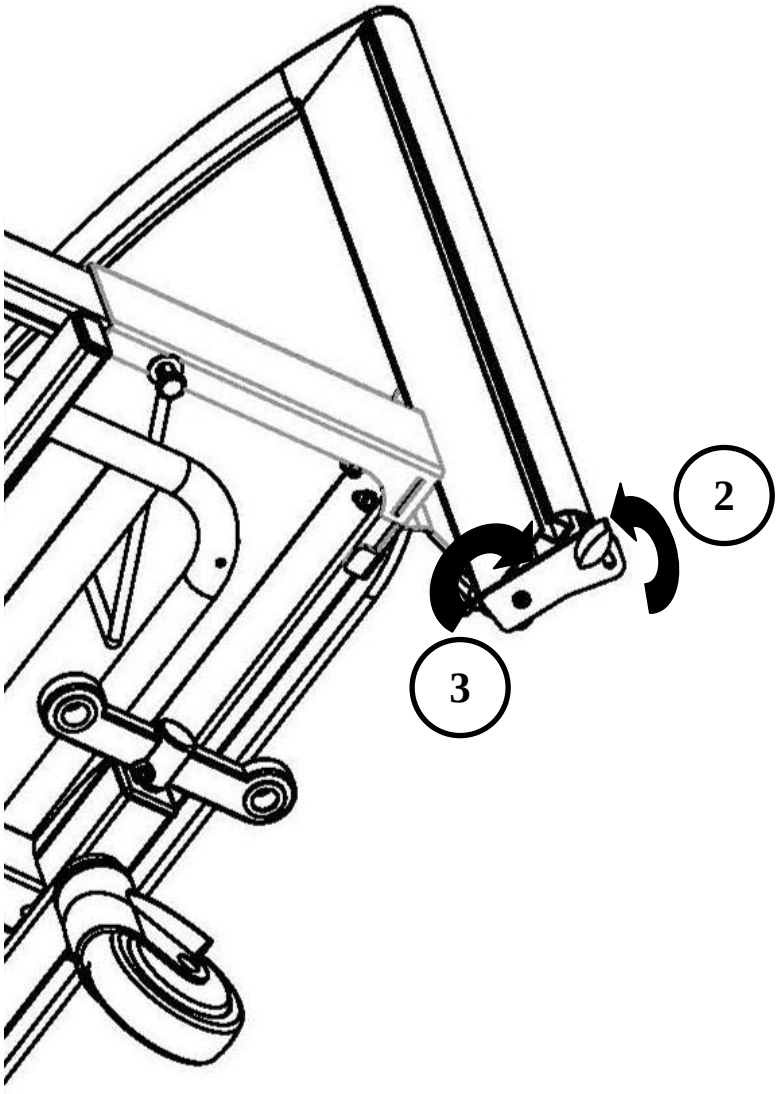
Plug out cables

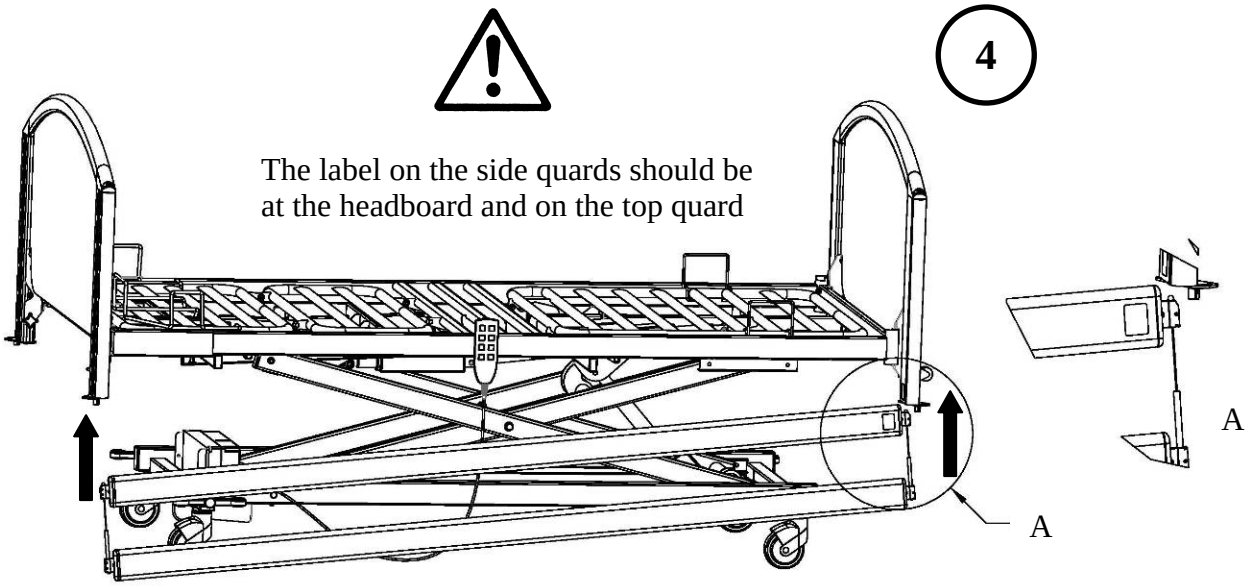


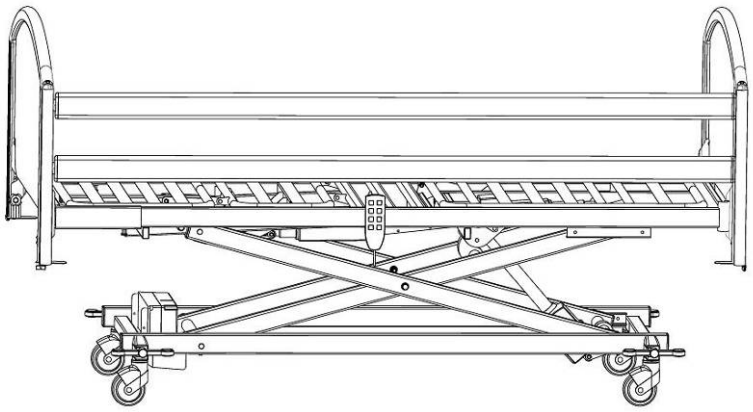

A
A
3
4
5

Installation of boards and side quards

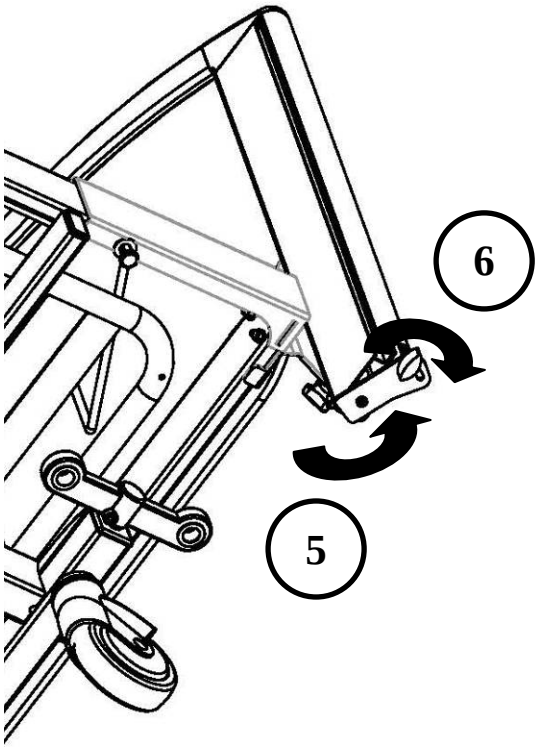




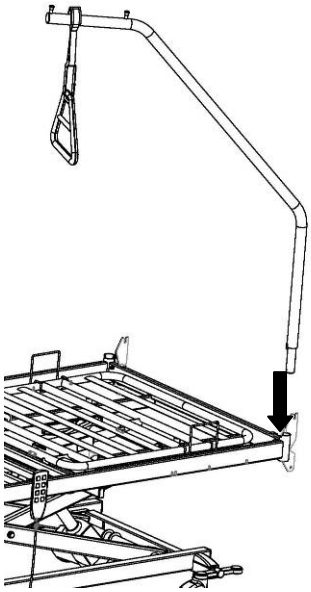


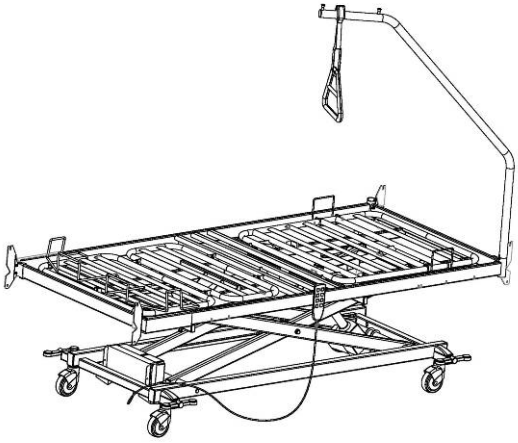


Check that all cable is
hidden in the board

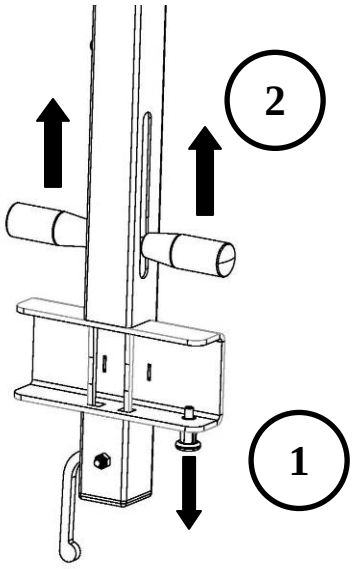


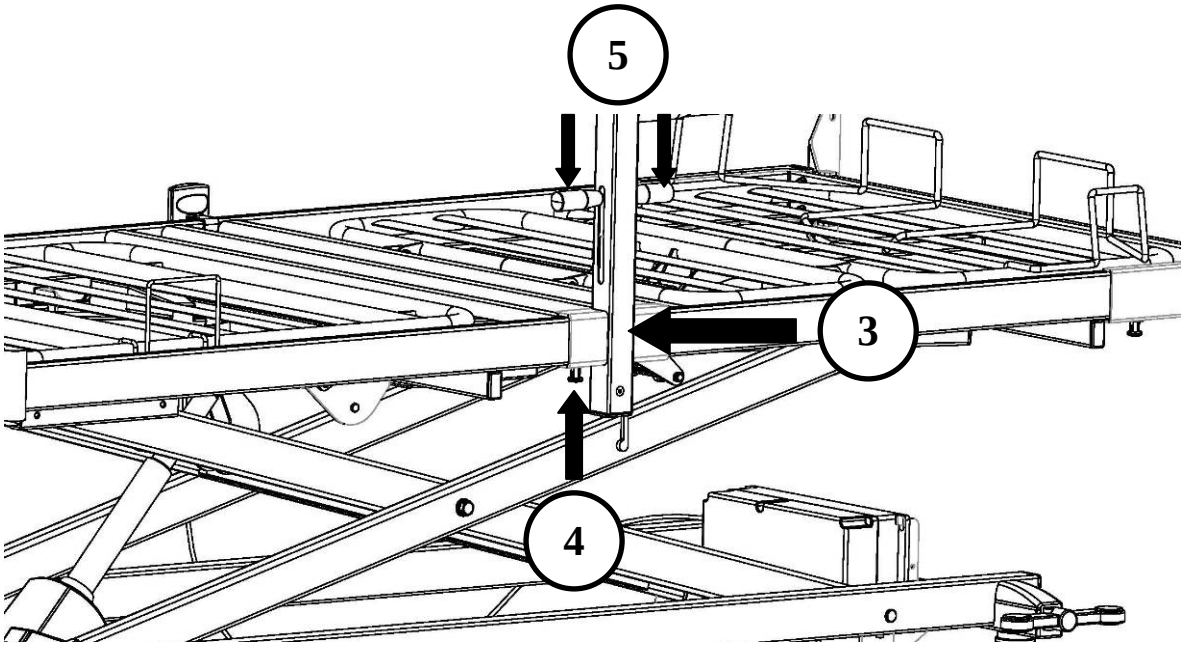
Assembling the lifting pole





Assembling of raising aid





3. Place the rasing aid somewhere between the green arrows (see label declaration) on the long side of the bed.

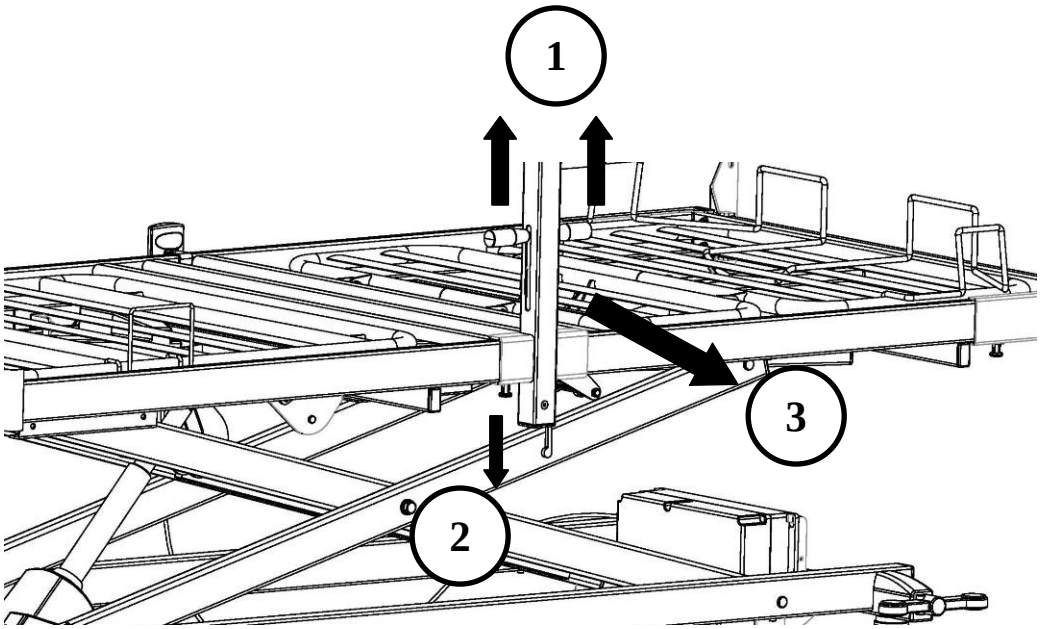
4. Move the raising aid sideways until the red button clicks in the position hole

5. Push down on the black handles.

Varning! Montera endast ett uppresningsstöd per sida.

Warning! Raising support should be mounted to the long outer sides of the bed, ie. mounted on the bed from outside (see pictures).

Dismount raising aid

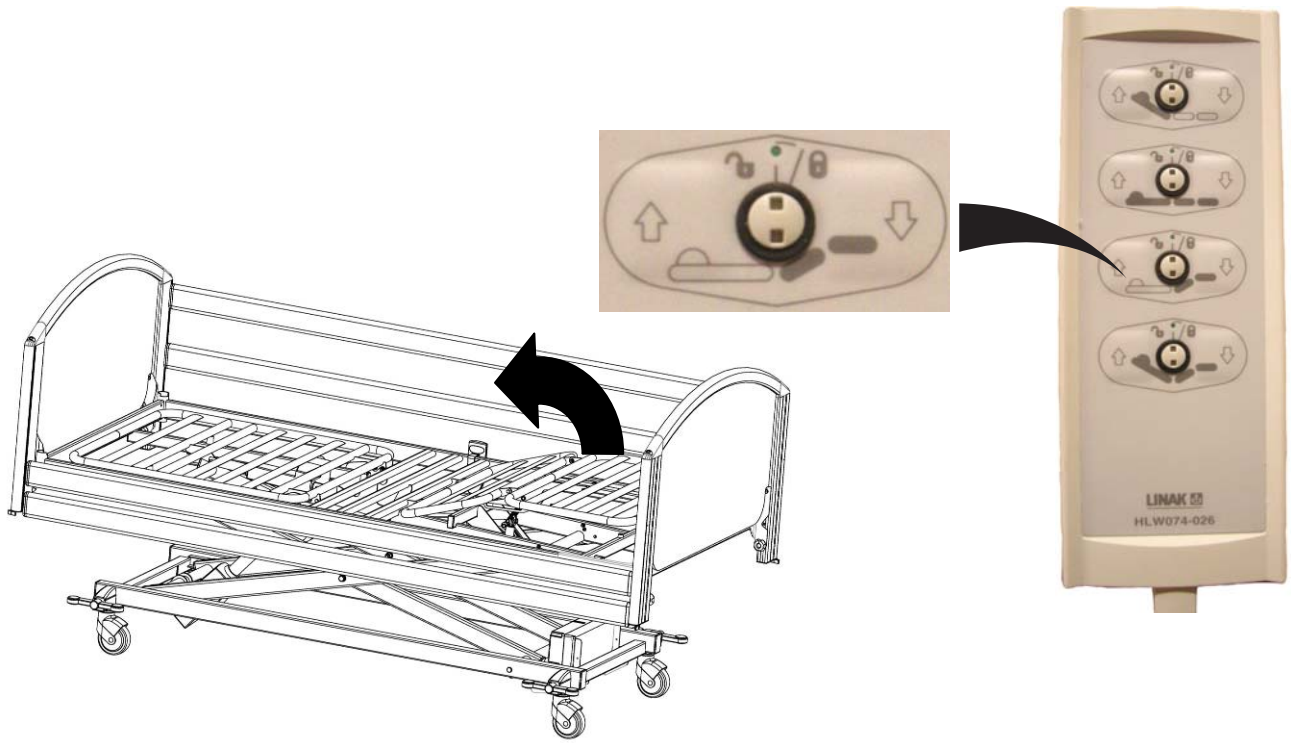


1. Pull up the black handles and hold them in the top position.
2. Pull down the red button (safety switch).
3. Dismount the raising aid from the bed

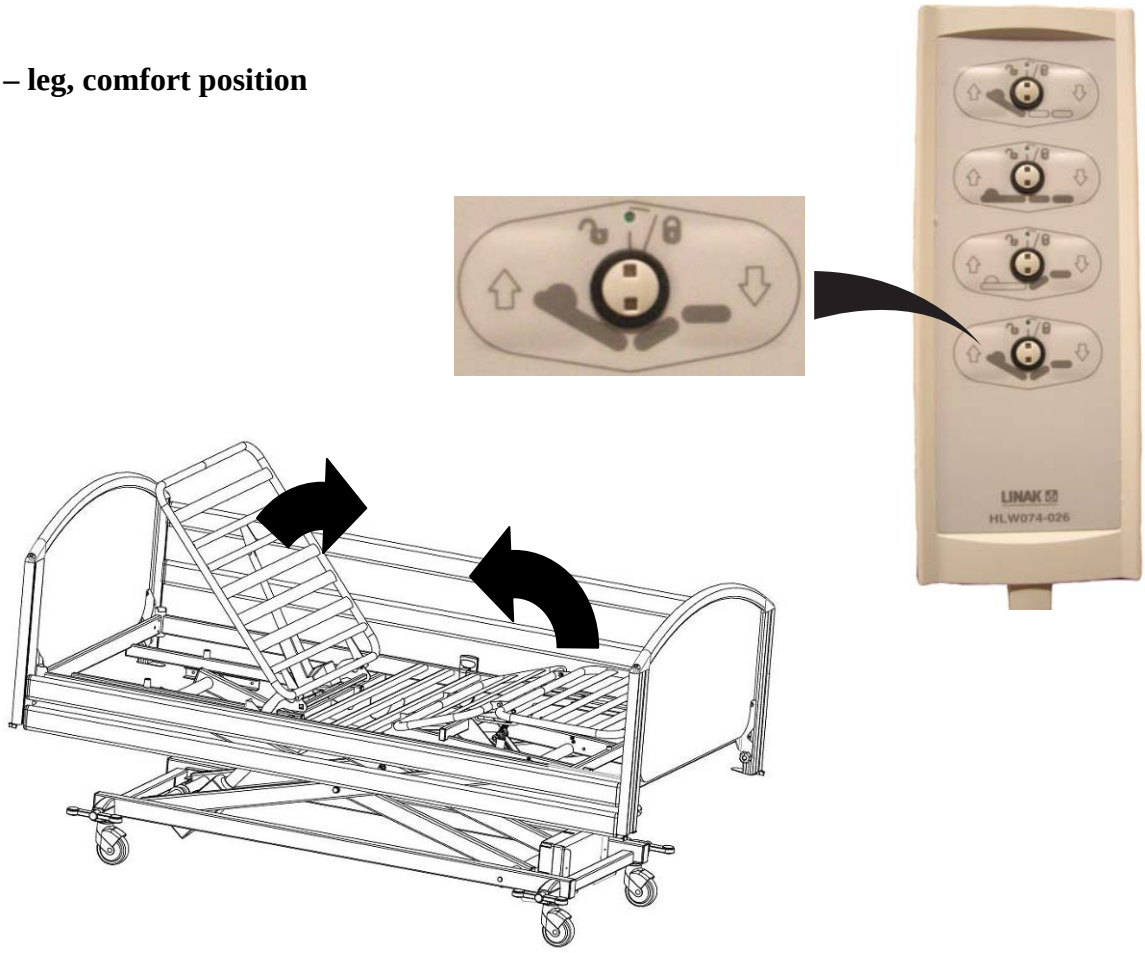
Functions of the hand unit control

Back

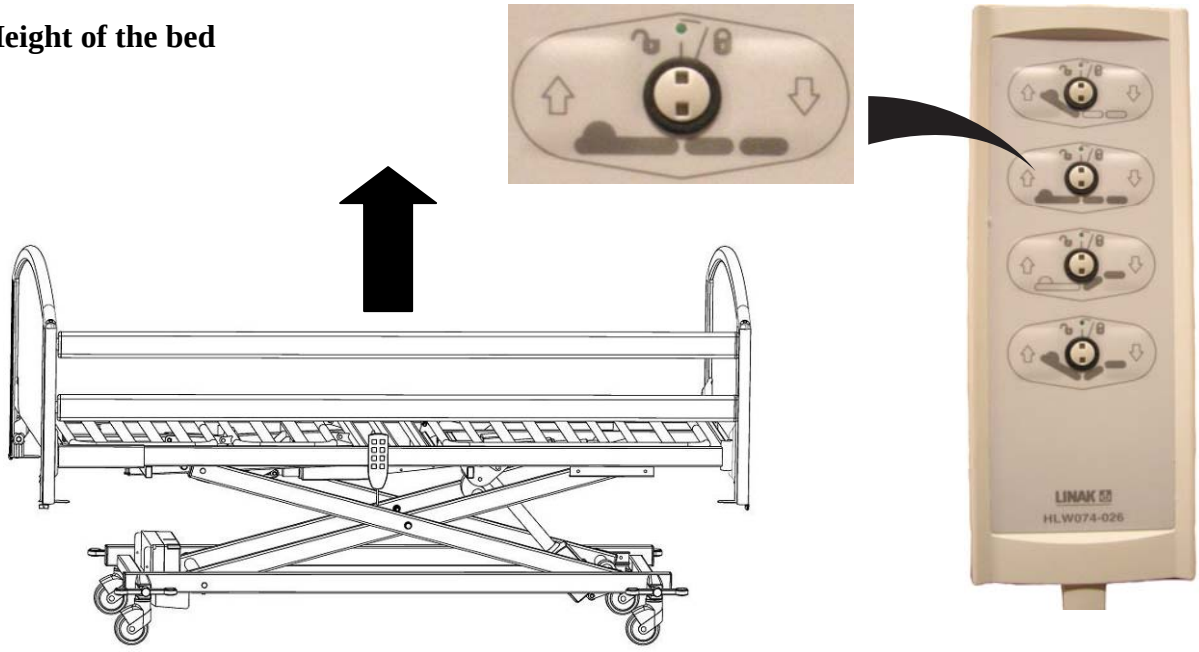
Leg



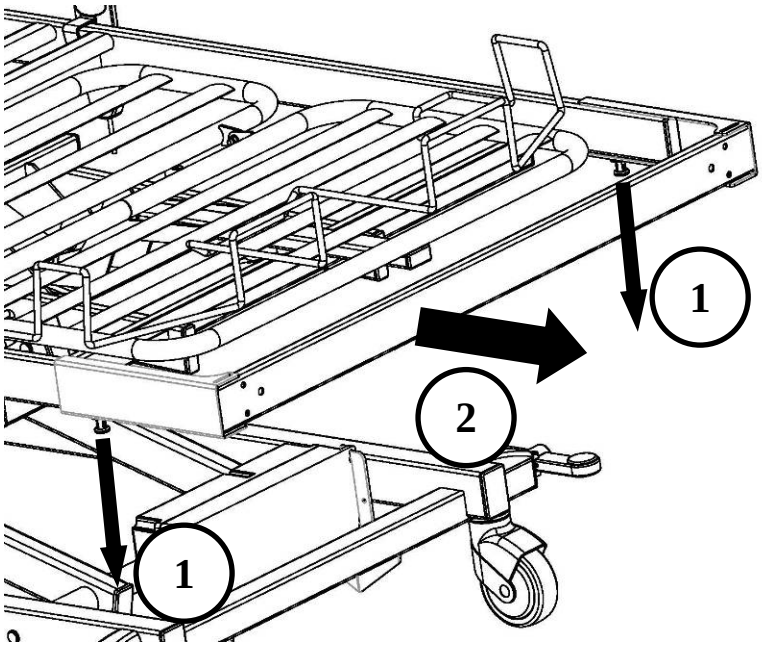
Back – leg, comfort position



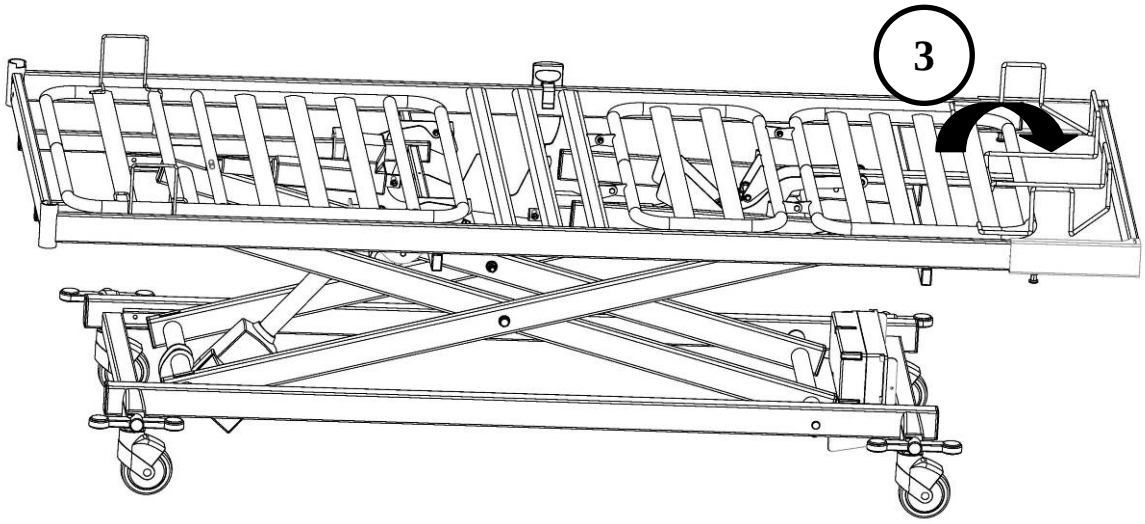
Height of the bed

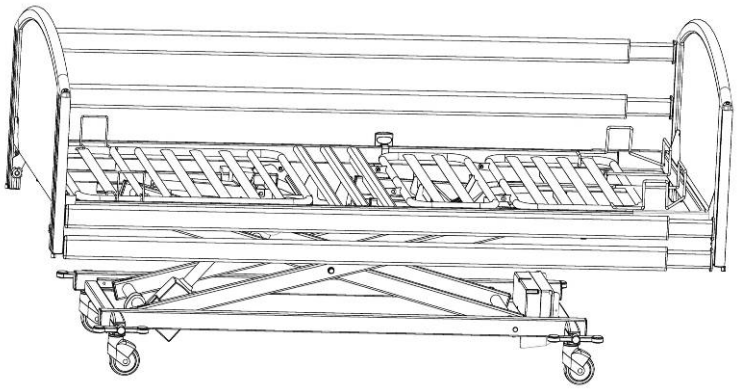


Extension part

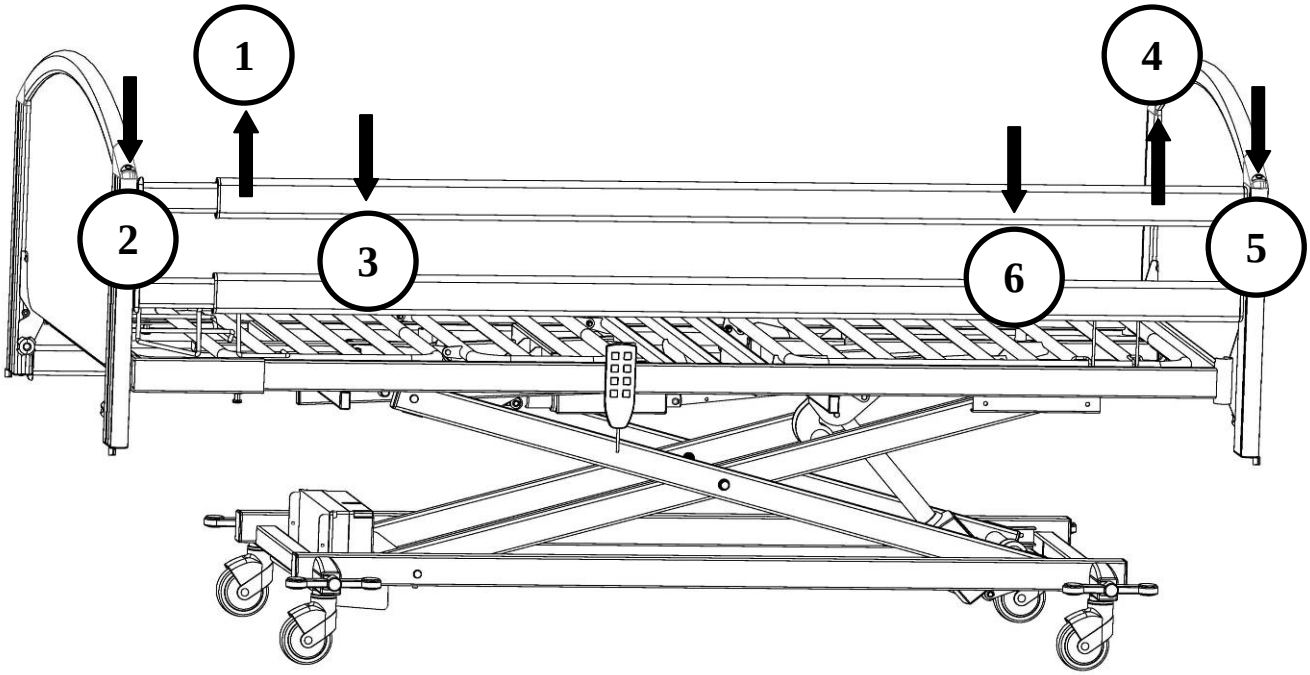


Do not pull the extension part beyond its maximum position (when the fast lock clicks in their outer position)





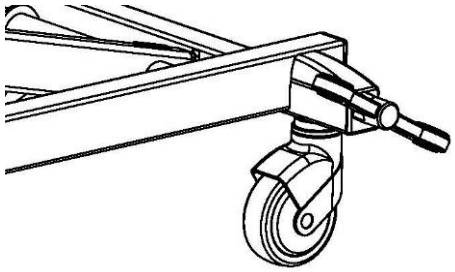
Handling, intregated side quard



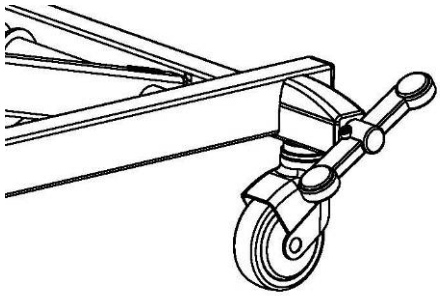
Breakes

The wheels may only be unlocked when moving the bed

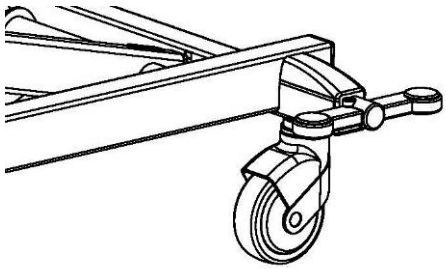
Red pedal: locks the wheels



Green pedal: Unlocked and freely rotating wheels



In the center position: Brakes and freely rotating wheels



The bed can also be supplied with individually braked wheels

Function control

Check that the functions dealt with in the following chapters operating satisfactorily.

Chapter:

- Function hand unit
- Operation, Integrated side quards (if they are mounted on the bed)
- Breaks

Service Schedule

NOTE: Copy this page and use one for each bed. Beds should have service annually.

Serial number of the bed:_____

What should be checked:	Date/signature								
Tighten the nuts and bolts. Replace dismantled nut with a new one.									
Check all welded seams. Check metal rods and its locks.									
Check actuator to lifting function.									
Check actuator to back rest									
Check brakes.									
Check actuator to leg part.									
Check cord and cables, make sure that there are no ruptions in those.									
Repair damage to paint finish.									
Lubricate according to instructions below.									
If the product contains battery backup: Check function									

Lubrication/maintenance/cleaning

Wheels /breaks

The break system should be checked regularly.

Lifting system/joints bed surface

All joints and bed surfaces with high load are equipped with self-lubricating bushings. However all joints to the bed surface should be re-greased and lubricated at least once a year to ensure functions. Also check washers and screws. Tighten all the nuts and bolts at the same time.

Lock/ locking mechanisms

Lubricate and check function.

Electrical system

All actuators and the transformer are maintenance free, and should not be opened, replacement parts are available.

Cleaning of the bed surface

Detergent type that resolves proteins, graduated according to the package. The pH of a finished washing solution should be between 6.5 to 7.5. The design allows flush.

The washing of mattresses

Detergent as described above or a mild soap solution. Washing with pure alcohol or chlorine solutions should be avoided as these can dehydrate plastics. The mattress can be washed.

Technical data

Regulations

Pro2 bed is CE-marked according to Medical Devices Directive 93/42/EEC

This bed is designed for adults over 12 years.

Recommended mattress should be 10-15 cm thick and 85-90 cm wide.

Only original accessories may be used on the bed.

Technical data

	Standard version
SWL (Safe Working Load)	211kg (316kg option)
Where of :	200kg (281 kg option) patient weight 20 kg mattress 15 kg accesories
IP-Class	IPX6
Voltage	230 V ~/50 Hz
Maximum power consumption	Max 2 A
Insulation class	Class II type B, dubbel insulated and connected to ground
Duty cycle	10%, 2 min/18 min
Highest/lowest elevation	33-81 cm
Bed surface	200 x 85 cm (Extendible 15cm)
Power connection	Power cord is 2,5 m measured from head end of the bed
Max noice level	38db

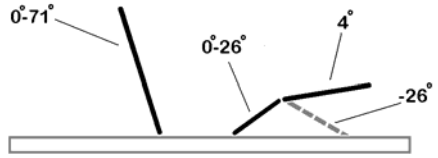
Material

Pro2; bed is made of steel.
Boards ang side quards are made of aluminum, board plates are of MDF.
Plastic parts are injection-molded polypropylene, polyamide, polyoximetylen and polythene.
Metal parts are powder coated or galvanized.

Weight and mesures

Detail	Weight	Mesure
Under bed	60 kg	171,0 x 84 cm
Bed surface	55 kg	206 x 89 cm
Bed with boards and side quards	115kg	221 x 99 cm
Mattress	-	10-15 x 85-90 x 200-215 cm

Max/min angels on bed surface



User invorenment/storage

Air pressure	700-1060 mbar
Humidity	30-75 %
Temperature	+10 till + 40°C

Product

Nursing home bed Pro^{2}bed

Weight without boards and side quards: 115kg

Measure without boards and side quards: 205,6x97,7cm

Product is CE-marked.
Medical Device Directive 93/42/EEC

The product is tested and approved to

SS-EN 1970/2008
SS-EN 1970/A1:2008
EN 60601-1-2:2007
EN 55011:1998+A1:1999+A2:2002 Class B
EN 61000-3-2:2006,
EN 61000-3-3:1995,-A1:2001, A2:2006
EN 60601-1-2:2007
EN 61000-4-2,-3,-4,-5,-6,-8,-11

Material:

Steel	99,0 kg
Plastic	1,9kg
Electronic	14,1 kg
Packaging (wood)	9,5 kg

Trouble shooting

Error	Plausible cause	Action
Nothing happens when pressing the buttons on the hand unit.	Power cord not connected	Connect power cord
	Hand unit broken	Change hand unit
	Transformer broken	Change transformer
	Wall socket out of order	Check wall socket
Lifting function out of order	Hand unit broken.	Change hand unit
	Lifting actuator broken	Try to connect the actuator in an other socket on the transformer, if not responding, change the lift actuator.
	Transformer broken	Check the light on the transformer, if not lit, change the transformer.
	Cable to actuator damaged.	Change cable.
Back rest function out of order	Hand unit broken.	Change hand unit
	Back actuator not responding	Try to connect the actuator in an other socket on the transformer , if not responding, change the back actuator
	Transformer broken	Change transformer
	Cable to actuator damaged.	Change cable.
Leg rest actuator function out of order	Hand unit broken	Change hand unit
	Leg actuator not responding.	Try to connect the actuator in an other socket on the transformer , if not responding, change the leg actuator
	Transformer broken	Change transformer
	Cable to actuator damaged.	Change cable.
Squeaking noise when changing position	Lubrication no longer effective	Find out where and lubricate or re-grease joints.
	Actuator not quiet	Change actuator
The bed keeps on going when hitting brakes	Break system damaged or worn out	Check breaks, wheels and linkage
The bed cant lift or is enabled to operate in any directions	Overloaded	Check patient weight
	Transformer broken.	Change transformer.
	Lift actuator broken.	Change lift actuator
Head and foot board seems loose	Check screws	Tighten screws

At the other errors and discrepancies on the beds, please contact our service department.

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Error message

The transformer emits a signal sound, this means that the bed has become overloaded or that there was a power outage. For more information contact the Proton Caretec AB

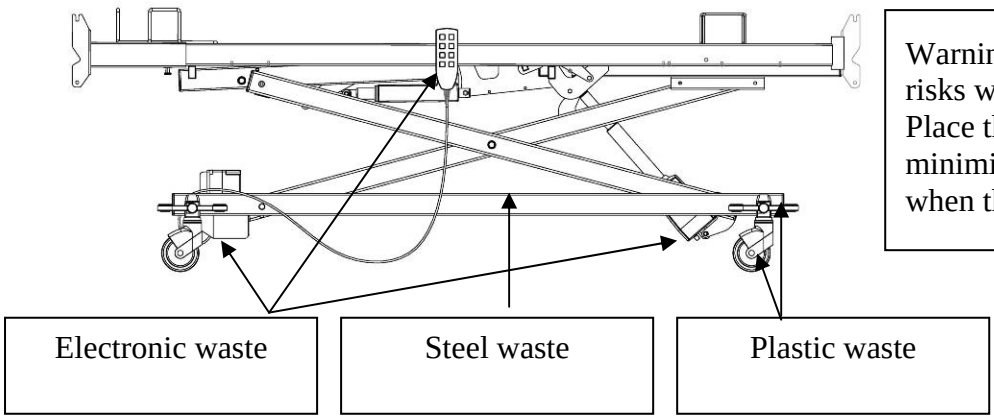
Spare parts

Article description	**Article number**	**Quantity/bed**	**Other**
Wheel braked , not directional locked	960002	4	
Mattress support foot end	640049	1	
Mattress support head end left	640051	1	
Mattress support head end right	640050	1	
Hand controller HB 74	940015	1	
Actuator back	940009	1	
Actuator leg	940011	1	
Actuator lift	940016	1	
Transformer CB16	940013	1	
Transition Buttons extraction	920038	2	

In need of wiring diagram and exploded view, please contact Proton Caretec

Recycling

The bed is designed to be recyclable. Disassemble the bed so that it can be recycled at your local recycling centre.



Warning: There may be trapping risks when the bed is dismantled. Place the bed on the long side to minimize the risk of crushing when the engines are removed

Electronic waste

Steel waste

Plastic waste

Environmental declaration

Company
Proton Caretec AB
Mellangatan 1
Box 8
568 23 Skillingaryd
Phone: 0046370-69 26 60
Webb: www.proton.se/caretec

Business

Proton Caretec AB develops, manufactures and markets healthcare beds and accessories for hospitals, homecare, nursing homes and retirement homes.

Operations are based in Skillingaryd, Sweden. Hospital and nursing home beds are made primarily of steel and aluminium. Our largest suppliers, both component and surface, are ISO14001 certified.

Products are assembled in assembly lines that are ergonomically optimized. When assembled, final inspection with functional testing is done and the products are packaged.

Environment
Proton Caretec AB is certified according to ISO 14001.

Environment policy:*" We must work to continually improve our environmental impact by using resources efficiently. We must also reduce energy use, sulphur emissions and waste through prevention. Our beds and other products and services are produced and distributed in the most environmentally sound manner taking into account what is technically and economically feasible. Furthermore, the working environment must be safe".*

Applicable environmental laws and regulations must be followed. We must be alert to the outside world other environmental requirements, and plan our work according to it.

When selecting the supplier with significant environmental impacts, we require that they cooperate in environmental activities.

Our customers must be informed of how products are handled to enable a long life cycle and reduce environmental impact.

Environmental declaration, continued

Electronics

In the manufacture process of electronic components the suppliers does not use the ozone-depleting solvents CFC and HCFC.

Asbestos, Mercury, PCBs and PCTs is not present in the product.

Plastic parts are free from heavy metals, lead and cadmium. The plastic in the circuit board 95VO is flame retardant. Otherwise there are no plastic components over 25 g containing the brominates flame retardants PBB, PBDE.

The product does not contain batteries that are classified as hazardous in the Battery Ordinance (1997:645).

Power supply unit contains a transformer, battery, relay cards and cabling.

Distribution

The packaging consists of a wooden pallet. For larger shipments, or where we ourselves help to unpack, the packaging is sent back for reuse. Wood is a combustible material.

Shipments from the factory are mainly made by truck. The transportation company used is actively working environmentally and ongoing certification is pending for environmental management.

Usage

Service and maintenance should be done by authorized personnel to ensure the safety and long life.

When cleaning the Pro; Care, use detergent of the type that resolves proteins, graduated according to the package. The pH of a finished wash solution should be between 6.5 to 7.5. The design allows flush. The bed can be washed in washing tunnel/central wash. The water temperature must be at least 85 ° C for 3 minutes. Fabric softener should be used. Lower temperatures or shorter period of time involves a risk of deposits and rust. The bed should be placed in a positive Trendelenburg position (+4 °) before washing. After washing, a functional test should be performed (see heading "Function check"). Also check that the labels are intact.

Recycling

Pro: Care is designed to be easily recycled. The bed consists mostly of steel. Steel is a metal that can be reused. Packaging should be recycled. Proton Caretec is a member of REPA - register.

Environmental impact

A product affects the environment throughout its life cycle. An important aspect of a care bed is the production of materials, primarily steel and plastic articles comprising. Pro: Care is optimized in terms of strength and designed with as little unnecessary material as possible.

What can you as a user do?

Make sure the bed is recycled in a correct way. Contact Proton Caretec AB.

Maintenance = Life expectancy is increasing.

EMC-table

ELECTROMAGNETIC EMISSIONS – for Pro2;Bed

Guidance and manufacturer's declaration - electromagnetic emissions		
The Pro2;Bed is intended for use in the electromagnetic environment specified below. The customer or the user of the Pro2;Bed should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The Pro2;Bed uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Pro2;Bed is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC-61000-3-3	Complies	

ELECTROMAGNETIC IMMUNITY – for Pro2;Bed

Guidance and manufacturer's declaration - electromagnetic immunity			
The Pro2;Bed is intended for use in the electromagnetic environment specified below. The customer or the user of the Pro2;Bed should ensure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic Discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	< 5 % U_T (>95% dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles < 5 % U_T (>95 % dip in U_T) for 5 s	< 5 % U_T (>95% dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles < 5 % U_T (>95 % dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Pro2;Bed requires continued operation during mains interruptions, it is recommended that the Pro2;Bed be powered from an interruptible power supply or battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3A/m	10A/m	Power frequency magnetic fields should be at levels characteristic of a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

ELECTROMAGNETIC IMMUNITY – for Pro2;Bed

Guidance and manufacturer's declaration - electromagnetic immunity			
The Pro2;Bed is intended for use in the electromagnetic environment specified below. The customer or the user of the Pro2;Bed should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	[10] V	Portable and mobile RF communications equipment should be used no closer to any part of the Pro2;Bed including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = 0{,}35\sqrt{P}$ $d = 0{,}35\sqrt{P}$ 80 MHz to 800 MHz $d = 0{,}7\sqrt{P}$ 800 MHz to 2.5 GHz where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with following symbol:
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	[10] V	
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflections from structures, objects and people.			

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in location in which the Pro2;Bed is used exceeds the applicable RF compliance above, the Pro2;Bed should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Pro2;Bed.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [10] V/m.

Recommended separation distance between portable and mobile RF communications equipment and the Pro2;Bed
The Pro2;Bed is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Pro2;Bed can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Pro2;Bed as recommended below, according to the maximum output power of the communications

equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 0{,}35\sqrt{P}$	80 MHz to 800 MHz $d = 0{,}35\sqrt{P}$	800 MHz to 2,5 GHz $d = 0{,}7\sqrt{P}$
0,01	0,035	0,035	0,07
0,1	0,12	0,12	0,22
1	0,35	0,35	0,7
10	1,11	1,11	2,21
100	3,5	3,5	7

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflections from structures, objects and people.